

ABSTRACT

METHOD OF SETTING UP MULTI-DIMENSIONAL DDA VARIABLES

5 A method, an apparatus, and a computer program product
render a multi-dimensional digital image using raytracing
in a multi-dimensional space. Variables of a
multi-dimensional digital differential analyzer (DDA) are
set up using multiplications only. For each axis of the
10 multi-dimensional space, a numerator holds the progress
within a cell along that axis and a denominator describes a
size condition causing the DDA to step to a next cell. For
a vector, a denominator of the vector for an axis is equal
15 to a delta for a vector component, excluding the component
of said axis, for two dimensions; and a product of deltas
for all vector components, excluding the component of said
axis, for greater than two dimensions.